REMARKS

Entry of the foregoing and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.114 and in light of the remarks which follow, are respectfully requested.

By the above amendments, claims 5, 8, 10 and 11 have been canceled without prejudice or disclaimer. The subject matter of claims 5 and 8 have been incorporated into claims 1 and 2, respectively. New claims 12 and 13 depend from claims 1 and 2, respectively, and are directed to additional aspects of the claimed invention. Support for such new claims can be found in the instant specification at least at page 9, lines 12-16. Entry of the foregoing amendments is proper at least because a Request for Continued Examination is being filed herewith. See 37 C.F.R. §1.114.

In the Official Action, claims 10 and 11 stand objected to under 37 C.F.R. §1.75(c). Without addressing the propriety of this objection, it is noted that the objection is moot in light of the above cancellation of claims 10 and 11. Accordingly, withdrawal of the objection is respectfully requested.

Claims 1, 4, 5 and 10 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent Application Publication No. 2005/0072524 (*Mueller et al*). Claim 3 stands rejected under 35 U.S.C. §103(a) as being obvious over *Mueller et al* in view of U.S. Patent No. 3,715,842 (*Tredinnick et al*). Withdrawal of these rejections is respectfully requested for at least the following reasons.

Independent claim 1 is directed to a slurry for cutting a silicon ingot, comprising abrasive grains and a basic material, wherein: the basic material is alkaline metal hydroxide, alkaline earth hydroxide or mixtures thereof; a content of the basic material is at least 3.5% by mass based on a total mass of a liquid component of the slurry; the slurry contains organic

amine in a mass ratio of 0.5 to 5.0 with respect to water in the liquid component of the slurry; the water is present in an amount of 10% by mass to 40% by mass with respect to the total mass of the slurry; and pH of the slurry is 12 or more.

Mueller et al does not disclose or suggest each feature recited in independent claim 1. As discussed above, claim 1 has been amended to incorporate the subject matter of claim 5, and claim 1 now recites that the water is present in an amount of 10% by mass to 40% by mass with respect to the total mass of the slurry. *Mueller et al* has no disclosure or suggestion of such feature.

Contrary to the Patent Office's assertion that the amount of water present in the composition disclosed by *Mueller et al* is "not literally defined by Meuller et al," *Mueller et al* does in fact disclose various compositions that contain water in amounts of about 74 wt. %, about 80.75 wt. %, about 82.5 wt. %, about 82 wt. %, about 81.5 wt. % and about 79.5 wt. % (paragraphs 0037, 0039 and 0042). Clearly, such disclosed amounts of water far exceed the claimed range of 10% by mass to 40% by mass with respect to the total mass of the slurry.

Further, *Mueller et al*'s disclosure of the amounts of various constituents present in the composition, does not fairly suggest the claimed water content range. In this regard, *Mueller et al* discloses a polishing composition comprising about 0.5 wt. % or more of fluoride ions, about 1 wt. % or more of an amine, about 0.1 wt. % or more of a base, and water (paragraph 0008). The scope of such ranges of the amounts of fluorine ions, amine and base are extremely broad, having no upper limits and relatively low lower limits. Such disclosed ranges would not have motivated one of ordinary skill in the art to arrive at the claimed range of 10% by mass to 40% by mass, without an improper resort to Applicants' own disclosure. It is also noted that *Mueller et al* discloses various other preferred ranges of the amounts of fluoride ions, amine and base at paragraphs 0013, 0017 and 0019, respectively. However, by

picking and choosing from the numerous preferred ranges disclosed by *Mueller et al* in an attempt to arrive at the claimed water content, it is apparent that the Patent Office has impermissibly relied on Applicants' own disclosure to arrive at the claimed water content range. Moreover, assuming (incorrectly) that one of ordinary skill in the art would have selected 15 wt. % fluoride ions, 25 wt. % amine and 15 wt. % base from the numerous ranges and amounts disclosed by *Mueller et al*, such a fortuitous selection would nevertheless have not resulted in the claimed amount of water in the range of 10% by mass to 40% by mass with respect to the total mass of the slurry recited in claim 1.

Mueller et al discloses that the polishing system can contain various additives selected from the extensive laundry list of additives disclosed at paragraph 0030 including surfactants, film-forming agents, polymeric stabilizers or other surface active dispersing agents, pH buffers, and polishing accelerators such as catalysts, oxidizers, and additional chelating or complexing agents, etc. However, *Mueller et al* does not provide any guidance for selecting the amounts of the additives in relation to the water content, thereby further contributing to the uncertainty of the amount of water present in its composition.

Furthermore, *Mueller et al* does not disclose or suggest that the slurry contains organic amine in a mass ratio of 0.5 to 5.0 with respect to water in the liquid component of the slurry, as recited in claim 1. In this regard, the Patent Office has taken the position that the claimed organic amine-to-water mass ratio range is obvious in view of the assertion that the claimed water content range can be calculated from the disclosures of *Mueller et al* (Official Action at page 6). However, in light of the fact that *Mueller et al* does not disclose or suggest the claimed water content range, it is apparent that *Mueller et al* also fails to disclose or suggest the claimed organic amine-to-water mass ratio range.

Tredinnick et al fails to cure the above-described deficiencies of *Mueller et al.* In this regard, the Patent Office has relied on *Tredinnick et al* for disclosing conventional sizes for abrasives used in polishing compositions (Official Action at page 3). However, like *Mueller et al*, *Tredinnick et al* fails to disclose or suggest that the water is present in an amount of 10% by mass to 40% by mass with respect to the total mass of the slurry, as recited in claim 1. *Tredinnick et al* also does not disclose or suggest the claimed organic amine-to-water ratio range.

As such, for at least the above reasons, it is apparent that no *prima facie* of obviousness exists. Accordingly, withdrawal of the above rejections is respectfully requested.

Claims 2, 7-9 and 11 stand rejected under 35 U.S.C. §103(a) as being obvious over Japanese Patent Document No. 02-262955 (*JP '955*) in view of *Mueller et al* and U.S. Patent No. 4,468,339 (*Rysek et al*). Claim 6 stands rejected under 35 U.S.C. §103(a) as being obvious over *JP '955* in view of *Mueller et al* and *Rysek et al*, and further in view of *Tredinnick et al.* Withdrawal of the above rejections is respectfully requested.

Independent claim 2 is directed to a method of cutting a silicon ingot using a slurry for cutting a silicon ingot, the method comprising contacting the silicon ingot with the slurry and cutting the silicon ingot, wherein the slurry comprises abrasive grains and a basic material, and wherein: the basic material is alkaline metal hydroxide, alkaline earth hydroxide or mixtures thereof; a content of the basic material is at least 3.5% by mass based on a total mass of a liquid component of the slurry; the slurry contains organic amine in a mass ratio of 0.5 to 5.0 with respect to water in the liquid component of the slurry; the water is present in an amount of 10% by mass to 40% by mass with respect to the total mass of the slurry; pH of the slurry is 12 or more; and the slurry is used at 65°C to 95°C.

JP '955 does not disclose or suggest each feature recited in independent claim 2. In this regard, the Patent Office has relied on *JP '955* for disclosing a method for cutting a silicon ingot which employs a cutting slurry (Official Action mailed January 25, 2006 at page 3). However, as acknowledged by the Patent Office, *JP '955* does not appear to disclose or suggest the slurry for cutting a silicon ingot recited in claim 2, let alone the claimed water content range and the organic amine-to-water mass ratio range recited in such claim.

Mueller et al fails to cure the above-described deficiencies of *JP '955*. For example, like *JP '955*, *Mueller et al* does not disclose or suggest that the water is present in an amount of 10% by mass to 40% by mass with respect to the total mass of the slurry, as recited in claim 2. In addition, *Mueller et al* does not disclose or suggest the claimed organic amine-to-water mass ratio range. These deficiencies are discussed above in greater detail with respect to the obviousness rejection based on *Mueller et al*.

Rysek et al and *Tredinnick et al* fail to cure the above-described deficiencies of *JP '955* and *Mueller et al*. In this regard, the Patent Office has relied on *Rysek et al* for suggesting that "slurries based on abrasive are known to be used for either cutting or polishing," and on *Tredinnick et al* for disclosing conventional sizes for abrasives used in polishing compositions (Official Action at page 3). However, like the other applied art, *Rysek et al* and *Tredinnick et al* do not disclose or suggest that the water is present in an amount of 10% by mass to 40% by mass with respect to the total mass of the slurry, as recited in claim 2. As well, *Rysek et al* and *Tredinnick et al* do not disclose or suggest the claimed organic amine-to-water mass ratio range.

For at least the above reasons, it is apparent that no *prima facie* case of obviousness exists. Accordingly, withdrawal of the above §103(a) rejections is respectfully requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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